

transporting the article on the conveyor continuously in the feed direction past the platen structure while contacting the sandpaper with the generally planar surface to be sanded;

translating the platen structure in a first circular translational orbital path of a predetermined diameter at a first frequency of at least three thousand cycles per minute in a plane parallel to the planar surface of the article as the article is transported past; and

during the step of translating, imparting a cyclic second translational motion to the platen structure at a second frequency lower than the first frequency, the cyclic second motion being in the same plane as the first circular translational orbital path and driving the platen structure reciprocally in a direction transverse to the feed direction to prevent the formation of extended linear series of swirls on the generally planar surface of the article in a direction parallel to the feed direction by motion of the platen structure in the first circular translational orbital path over the article as the article is transported past the platen structure by the conveyor, where the cyclic second translational motion has a cyclic displacement with a range of displacement greater than the magnitude of the predetermined diameter of the first circular translational orbital path.

3. (Amended) A method of sanding a generally planar surface of an article of wood, the method comprising;

providing a sanding machine including a conveyor to carry articles in a feed direction and an elongate platen structure carrying [a sheet of] sandpaper, the platen structure being disposed in a spaced apart relationship with the conveyor with the

elongate axis of the platen structure being disposed across the feed direction of the conveyor;

placing the article on the conveyor;

transporting the article on the conveyor past the platen structure continuously while contacting the sandpaper with the generally planar surface to be sanded;

translationally moving the platen structure in a first circular translational orbit at a first speed from one thousand to five thousand inches-per-minute, and in the plane of the generally planar surface of the article as the article is transported past; and

while translationally moving the platen structure in the first circular translational orbit, adding a cyclic second translational motion to the platen structure in the plane of the generally planar surface of the article at a second speed with an average magnitude lower than that of the first speed and in a direction transverse to the feed direction.

Please add the following new claims:

--14. An orbital sander for abrading wood products comprising:

a frame,

a first motor mounted on the frame,

a drive shaft rotatable by the first motor and extending from the first motor,

a moveable brace supported by the frame and operatively connected to the drive shaft, so that the brace moves when the drive shaft is rotated by the first motor,

a second motor mounted on the brace,

two shafts supported by the brace and rotatable by the second motor,
an elongate, movable platen having a flat bottom surface, where the platen
is supported by two shafts, and where the platen moves in a translational orbit when the
two shafts are rotated by the second motor, and


a conveyor supported by the frame and positioned beneath the platen's flat
bottom surface.

2
15. The sander of claim 14 further comprising two timing pulleys, one
on the second shaft and one on the third shaft, and a timing belt driven by the second
motor and extending around the two timing pulleys so that when the second and third
shafts are rotated by the second motor, the shafts move in time.

16. The sander of claim 15 further comprising first and second bearings
mounted on the brace and third and fourth bearings mounted on the platen, where the first
and third and second and fourth bearings support the second and third shafts,
respectively.

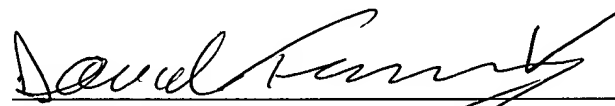
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June 23, 1998.


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Date of Signature: June 23, 1998

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